Halictus meliloti catalinensis Cockerell

Santa Rosa I., August 5, 1 ♀.
Santa Cruz I., August 12, 1 ♀.

4. A NEW IXODES (ACARINA: IXODIDAE)

By G. F. Augustson

Of the many interesting ectoparasites collected from mammals and birds of the Santa Barbara Channel Islands this new tick, *Ixodes peromysci,* presents such a complete history that all instars are illustrated and described. This is not unusual where many different hosts are under observation, but it is uncommon for members of the family *Ixodidae* to complete their life cycle on single species of host, as is true in this case. All instars were found and preserved by Mr. J. C. von Bloeker, Mammologist (Los Angeles Museum), off the white-footed mouse, *Peromyscus maniculatus elusus,* from Santa Barbara Island, California.

Upon the strength of these facts the most logical name for this parasite is that of the host to which it is apparently specific. Undoubtedly other islands of the Channel with a more varied fauna will disclose other hosts if the parasite is found. Although other islands were under observation the survey is as yet far from completed.

The complete biology of this tick has not as yet been studied, but the facts presented above give some information as to its life cycle. Besides these it might also be added that copulation occurs upon the host, as is evident by the fact that five engorged females taken from the host, and immediately preserved, were later found to be in copula with the male. Whether the male feeds is not definite, but from the appearance of the hypostome it may be assumed that it does not.

All ecological data and analysis of plates are included after the final larval description. Illustrations are original, being completed with the aid of the Abbe Zeiss Camera Lucida. The scale for measurements were obtained with a sub-stage micrometer.

I am greatly indebted to Dr. W. D. Pierce, Entomologist (Los Angeles Museum), for his suggestions and aid, and to J. C. von Bloeker whose excellent field work has made this paper possible.

IXODES PEROMYSCI n. sp.

Measurements. Female: (Holotype)
Body: L. 1.3 mm., W. 0.8 mm.
Scutum: L. 0.85 mm., W. 0.65 mm.
Capitulum: L. 0.45 mm.
Basi capitulum: L. 0.1 mm., W. 0.3 mm.

FEMALE: GENERAL ANALYSIS: Body: L. 1.3 mm., W. 0.8 mm. (an engorged female attains the dimensions of L. 6 mm., W. 4.2 mm.). A very small tick; oval, slightly narrower in front, broadest at level with coxae IV.

DORSUM: Reddish-brown (in 70 percent alcohol); with many long setae, particularly along the posterior border; marginal groove not continuous posteriorly; foveae indistinct; no lateral or median grooves.

SCUTUM: L. 0.85 mm., W. 0.65 mm., uniform dark-brown; with few scattered, short setae; broadly oval, widest at ocular level, not as wide as long; lateral and posterior angles broad; cervical grooves deep at onset, becoming very wide, shallow, and divergent posteriorly, not reaching postero-lateral border; scapula sharp, slightly divergent; no punctuations.

VENTER: Like dorsum; pregenital plate inconspicuous, with many short setae; epimeral plates inconspicuous, with many long setae; anal plate without setae; adanal-median plates together, with many long setae; genital groove continuous around genital orifice, slightly diverging posteriorly to postero-lateral margin; anal groove horse-shoe shape around orifice; genital orifice situated between coxae IV; spiracles with very thin, uniform chitin frame, oval, macula inconspicuous, slightly eccentric, globlet cells large within frame, smaller toward macula.

CAPITULUM: L. 0.45 mm., length of basi capitulum one-third width; porose areas moderate, sub-triangular, interval equal to one and one-half normal width of one area; cornu prominent, long, sharp; digits of chelicerae not reaching level of corona; hypostome dentition 3/3; pedipalps long, slender; article I small, not one-fourth length of article II; article II the largest; article III three-fourths the length of article II; palps sparsely covered with strong, short setae; no palpal setae; auriculae prominent, long, blunt; no ventral ridge.

LEGS: Moderate length, hairy; annulations conspicuous ventrally; coxa I sub-triangular, with internal spur of moderate length, slightly pointed, not reaching coxa II, external spur strong, blunt; coxae II-III rectangular with short, blunt external spur only; coxa IV oval-rectangular, with short, blunt external spur; all coxae with one to three very long, slender setae; tarsus I pseudo-articulation inconspicuous from last annulation, Haller's

organ guarded by a single pillar in front, one prominent hump anteriorly, tapering gradually at extremity; pulvillus moderate, as long as claws.

Measurements. Male: (Allotype)
Body: L. 1.1 mm., W. 0.65 mm.
Capitulum: L. 0.35 mm.
Basi capitulum: L. 0.15 mm., W. 0.21 mm.

Male: General Analysis: Body: L. 1.1 mm., W. 0.65 mm., oval, slightly narrower in front, broadest at level of coxae IV.

Dorsum: Reddish-brown; marginal groove complete posteriorly; pseudoscutum only slightly indicated by a darker brown area; cervical grooves weakly indicated, shallow, divergent posteriorly; setae as in female; scapula short, blunt, not as divergent as in female.

Venter: Ventral plates prominent; epimeral plates with 7 short setae posterior to coxa IV; adanal plates with 8 setae; median plates with 21 setae; no setae in anal plate; all plates separated by a wide shallow suture; with body fold conspicuous along posterior border; general color of venter lighter brown than in female; genital aperture situated between coxae III; pregenital plate obsolete, no visible setae; spiracles as in female.

Capitulum: L. 0.35 mm., basi capitulum not twice as wide as long; cornu shorter than in female, not as prominent; digits of chelicerae reach just to level of corona; pedipalps short, thick; article I the smallest, indistinct dorsally, article II the largest, article III but slightly shorter; palps with very few setae sparsely arranged dorsally; 3 long palpal setae on article II, 2 long, 2 short on article III; ventral ridge visible in the medial field, inconspicuous laterally; auriculae very short, blunt; hypostome dentition irregular, denticles 2 and 3 protrude laterally to others.

Legs: As in female, the annulations being not as conspicuous ventrally, the single dorsal hump of tarsus I being more prominent; coxal shape and armature as in female.

Measurements. Nymph: (Type Nymph)
Body: L. 0.75 mm., W. 0.62 mm.
Scutum: L. 0.4 mm., W. 0.35 mm.
Capitulum: L. 0.3 mm.
Basi capitulum: L. 0.14 mm., W. 0.19 mm.

Nymph: General Analysis: Body: 0.75 mm., W. 0.62 mm., broadly oval, widest at level with coxae IV.

Dorsum: Pale-brown, sparsely covered with long setae along the posterior margin; marginal groove but slightly indicated laterally only.

Scutum: L. 0.4 mm., W. 0.35 mm., dark-brown; broadly oval, lateral angles rather abrupt, posterior angle very broad; at the most about 4 setae over entire surface; cervical grooves very shallow anteriorly, becoming fused and fan-shape posteriorly, obsolete before reaching posterior margin; scapula very short, sharply divergent.

Venter: Like dorsum; ventral plates inconspicuous; genital grooves weakly indicated, not complete anteriorly, slightly divergent posteriorly; anal groove weak, complete around orifice, slightly divergent posteriorly; coxae as in female; spiracles circular, globlet cells distinct just within frame only, macula obsolete.

Capitulum: L. 0.3 mm., basi capitulum width but slightly greater than length; cornu small, sharp, projecting more laterally than posteriorly; digits of chelicerae not reaching corona; pedipalps as in female, somewhat stouter, 2 palpal setae on article II; ariculae prominent, rounded, projecting slightly laterally; hypostome dentition 3/3, with tendency toward irregular as in male, ventral ridge absent.

Legs: As in female, annulations being obsolete.

Measurements. Larva (Type Larva)

Body: L. 0.5 mm., W. 0.45 mm.
Capitulum: L. 0.2 mm.
Basi capitulum: L. 0.1 mm., W. 0.11 mm.

Larva: General Analysis: Body: L. 0.5 mm., W. 0.45 mm., unfed specimens nearly circular; a pale-brown to colorless.

Dorsum: As in nymph, marginal groove being obsolete, setae less numerous.

Scutum: As broad as long, lateral angles acute, posterior angle gradual, not as broad as in nymph; no visible punctuations or setae.

Venter: Ventral plates and grooves obsolete; setae not as numerous as in nymph.

Capitulum: L. 0.2 mm., basi capitulum almost cuboidal; digits of chelicerae reaching corona; cornu as in nymph; pedipalps short, thick, clubshape, the proximal articulation of article II being much narrower than the distal, article II but slightly

longer than article III, setae sparse, long, 2 palpal setae on article II; hypostome dentition 2/2, with tendency toward irregular as in nymph; auriculae prominent, sharper than in nymph.

Legs: As in nymph, tarsus I terminating sharper; coxae I-III as in female respectively.

Type Host: White-Footed Mouse (*Peromyscus maniculatus elusus*)

Type Locality: Santa Barbara Island, Los Angeles County, California

Collector: J. C. von Bloeker, Jr.

Holotype: Los Angeles Museum, No. 1939-585

Allotype: Los Angeles Museum, No. 1939-585

Type Nymph: Los Angeles Museum, No. 1939-585

Type Larva: Los Angeles Museum, No. 1939-585

Paratypes: 2 females (engorged, 1 in copula with male), 2 males in author's collection. The remaining 27 in the Los Angeles Museum.

Lots:

No. 1939-582 (of Los Angeles Museum) 5 females (engorged, 2 in copula with males), 2 nymphs, 1 male (separate). Collected May 28, 1939; 1 host observed.

No. 1939-583, 2 females (engorged, 1 in copula with male), 1 nymph, 1 male (separate). Collected May 30, 1939; 16 hosts observed.

No. 1939-585, 8 females (1 normal, 7 engorged, 2 in copula with male) 4 males (separate), 2 nymphs, 1 larva. Collected May 29, 1939; 11 hosts observed.

No. 1939-586, 1 female (engorged), 1 nymph. Collected May 30, 1939; 3 hosts observed.

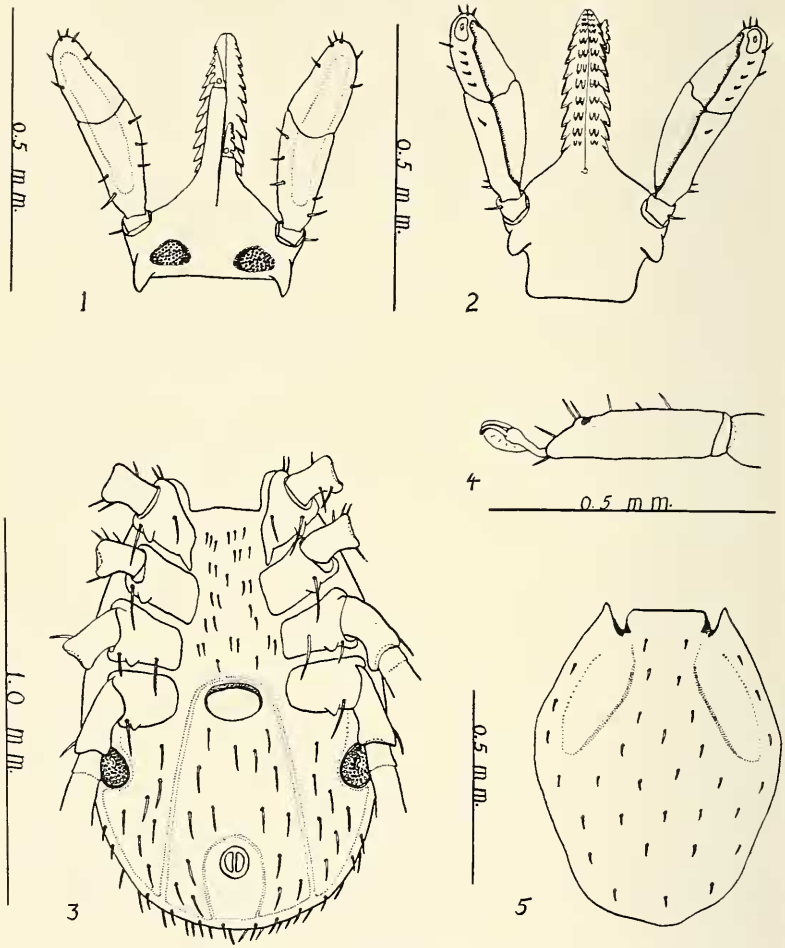

PLATE 30—*Ixodes peromysci*

Fig .1. Capitulum, female, dorsal.
Fig. 2. Capitulum, female, ventral.
Fig. 3. Venter, female.
Fig. 4. Tarsus I, female.
Fig. 5. Scutum, female.

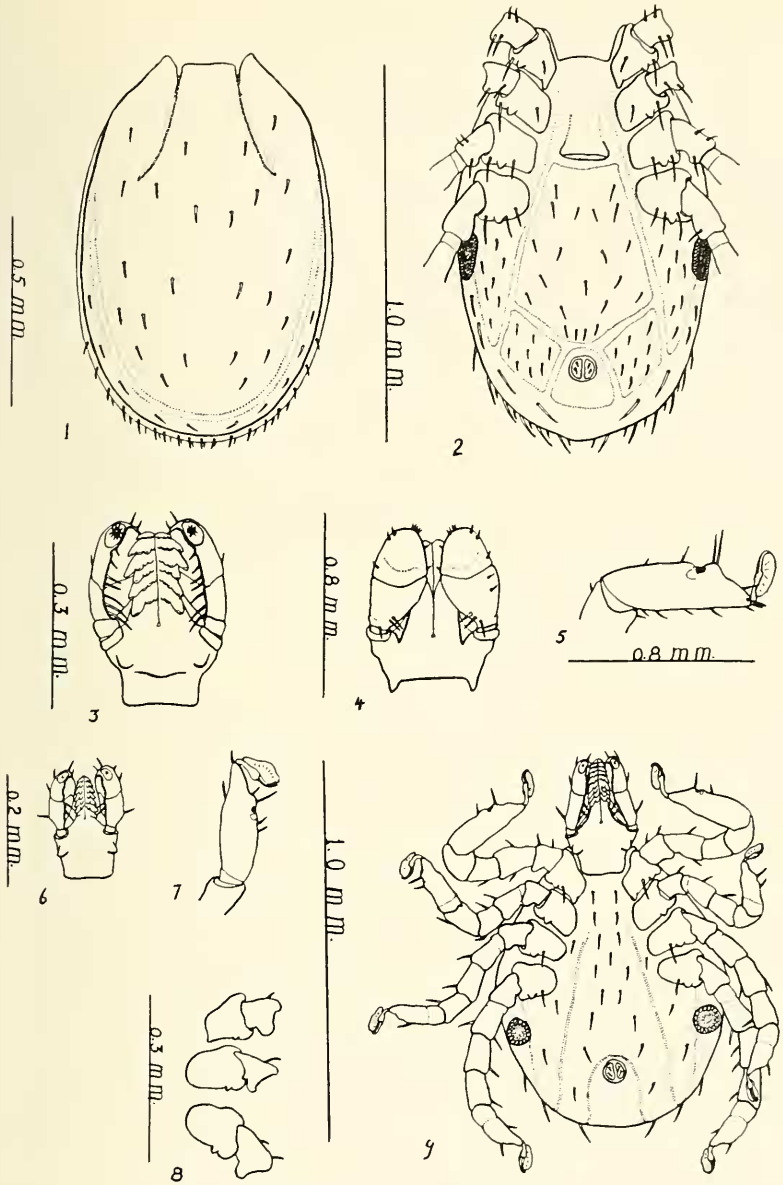

PLATE 31—*Ixodes peromysci*

Fig. 1. Dorsum, male.
Fig. 2. Venter, male.
Fig. 3. Capitulum, male, ventral.
Fig. 4. Capitulum, male, dorsal.
Fig. 5. Tarsus I, male.
Fig. 6. Capitulum, larva, ventral.
Fig. 7. Tarsus I, larva.
Fig. 8. Coxae, larva.
Fig. 9. Ventral view, nymph.